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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,460	09/26/2003	Joseph C. Facey	CS-21,294	7390

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PRAXAIR, INC.
LAW DEPARTMENT - M1 557
39 OLD RIDGEBURY ROAD
DANBURY, CT 06810-5113

EXAMINER	
STONER, KILEY SHAWN	
ART UNIT	**PAPER NUMBER**
1793	

MAIL DATE	DELIVERY MODE
11/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/670,460	FACEY ET AL.	
	Examiner	Art Unit	
	Kiley Stoner	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *11-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 10* is/are rejected.

7)☒ Claim(s) *6-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 April 2007* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 4/19/07. These drawings are not accepted. Replacement Figure 1 does not include reference letters A, B or D, which were included in the original drawings. These reference letters are required in the drawings because paragraph [0037] of the specification refers to these letters.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The reference letter "C" disclosed in paragraph [0037] of the specification is not present in any of the Figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Accordingly, the applicant must submit replacement drawings that include reference letters A, B, C and D.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt et al. (US 6,073,830) (hereafter Hunt).

With respect to independent claim 1, Hunt teaches a method for forming a solder bonded sputter target/backing plate assembly (title) comprising the steps of: a) forming a backing plate (16) with a bonding surface having at least two spaced-apart peripheral flanged segments (22) disposed on the bonding surface of the backing plate; b) forming a sputter target (14') having a sputter surface and at least two peripheral notched segments (12') on the bonding surface and said notched segments adapted for aligning with the flange segments (Figures 6A-7B); c) applying a solder material to the interface spacing defined by superimposing and aligning said sputter target on the backing plate and said flange segments having a height thickness larger than the depth thickness of the notched segments (Figures 6A-7B; and column 1, line 59-column 2, line 22); and d) allowing said solder material to solidify and bond the sputter target to the backing plate (Figures 6A-7B; and column 1, line 59-column 2, line 22). Note that the flange (22) has a height thickness larger than the depth thickness of the notched segments ('12).

Hunt also teaches the backing plate and sputter target are disc-shaped (Figures 3-7B; and column 9, lines 15-44); the flange segments form a single arcuate-shaped flange and the notched segments form a single arcuate-shaped notch (Figures 3-7B; and column 9, lines 15-44); and the height of the flange (h2) is between about 0.100 inch and 0.500 inch (column 9, line 63-column 10, line 12).

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hunt et al. (US 6,599,405) (hereafter Hunt et al.)

With respect to independent claim 1, Hunt et al. teaches a method for forming a solder bonded sputter target/backing plate assembly (abstract) comprising the steps of: a) forming a backing plate (58) with a bonding surface having at least two spaced-apart peripheral flanged segments disposed on the bonding surface of the backing plate (Figure 3B); b) forming a sputter target (52) having a sputter surface and at least two peripheral notched segments on the bonding surface and said notched segments adapted for aligning with the flange segments (periphery of target 52); c) applying a solder material to the interface spacing defined by superimposing and aligning said sputter target on the backing plate and said flange segments having a height thickness larger than the depth thickness of the notched segments (column 1, lines 11-13; and Figure 3B, wherein the flange of the backing plate (58) has a height thickness larger

that the depth thickness of the notched segments of the target (52)); and d) allowing said solder material to solidify and bond the sputter target to the backing plate(column 1, lines 11-13).

Hunt et al. also teaches that the backing plate and sputter target are disc-shaped (Figure 3A); the flange segments form a single arcuate-shaped flange and the notched segments form a single arcuate-shaped notch (Figure 3A); and the sputter target is selected from the group comprising titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, gold, tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, and alloys thereof and the backing plate is selected from the group comprising copper, aluminum, titanium, and alloys thereof and the backing plate is selected from the group comprising copper, aluminum, titanium, and alloys thereof (column 4, lines 51-59).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al. (US 6,073,830) (hereafter Hunt).

Hunt is silent with respect to the thickness of the width of the flange (22); however, it is the examiner's position that having the thickness of the width of Hunt's flange between about 0.100 inch and about 0.500 inch would have been obvious to one of ordinary skill in the art because a flange with the claimed dimensions would have had sufficient rigidity to function in an sputter target/backing plate assembly. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the thickness of the width of Hunt's flange between about 0.100 inch and about 0.500 inch, since it has been held that discovering an optimum value or a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The artisan would have been motivated to have the thickness of the width of Hunt's flange between about 0.100 inch and about 0.500 inch by the reasoned expectation of forming a sufficiently rigid sputter target/backing plate assembly.

Allowable Subject Matter

Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 9-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiley Stoner whose telephone number is 571-272-1183. The examiner can normally be reached Monday-Thursday (9:30 a.m. to 8:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/6/07

Kiley Stoner

Primary Examiner A.U. 1793